

## TITLE: Tit 부분기성

## DATE: 2022.11.25 2021741.062 7/2

```
clear all;
        clear all;
                                                                                            clear all;
                                                                                            clc;
        clc:
 4
                                                                                            Px = 80e-4:
        n=5;
                                                                                            Pv = 30e-4;
        w=4;
                                                                                            M0 = 20e-5;
 7
        h=4;
                                                                                            I = 11.25e-12;
        x = linspace(0,w,n);
                                                                                            S = I/0.001;
10
        y = linspace(0,h,n);
                                                                                    11
                                                                                           E = 0.09e6;
11
                                                                                    12
                                                                                           L = 10e-3;
12
        T=zeros(n); % 5*5 배열을 모두 0으로 생성
13
                                                                                    14
15
                                                                                            s = linspace(0,L,100);
14
        T(1,1:n) = 100; % top
                                                                                           ds = s(2) - s(1);
15
        T(n,1:n) = 30; \% bottom
        T(1:n,1) = 0;
16
                                                                                    17
                                                                                            th = zeros(size(s));
17
        T(1:n,n) = 70; % right
                                                                                    18
                                                                                           bd = zeros(size(s));
18
19
                                                                                    19
                                                                                           x = zeros(size(s));
        tol = 1e-6;
                                                                                           y = zeros(size(s));
20
        error = 1;
                                                                                    21
        k = 0
21
                                                                                    22
                                                                                            for j = 1:10
22
                                                                                    23
                                                                                               for i = 2:length(s)
23
        while error>tol
                                                                                                  \begin{array}{lll} th(i) = th(i-1) + (M0 - Px^*(y(end)-y(i-1)) + Py^*(x(end)-x(i-1)))^*ds/(E^*I); \\ bd(i) = (M0 - Px^*(y(end)-y(i-1)) + Py^*(x(end)-x(i-1)))/S; \end{array}
                                                                                    24
24
           k = k+1
                                                                                    25
25
           T_old = T
                                                                                                   P = sqrt(Px*Px + Py*Py);
26
               for i = n-1:-1:2
                                                                                    27
                                                                                                   x(i) = cos(th(i-1))*ds + x(i-1);
27
                  for j = 2:n-1
                                                                                                  y(i) = \sin(th(i-1))*ds + y(i-1);
                                                                                    28
28
                     T(i,j) = 0.25 * (T(i,j-1) + T(i-1,j) + T(i+1,j) + T(i,j+1));
                                                                                    29
29
                   end
                                                                                    30
30
               end
                                                                                    31
31
               error = max(max(abs(T old-T)));
                                                                                    32
                                                                                            plot3(x,y,bd,'-ob')
32
                                                                                    33
                                                                                            axis([0 L -L L])
                                                                                    34
                                                                                            xlabel('x [m]')
                                                                                    35
                                                                                           ylabel('y [m]')
k =
                                                                                            Figure 1
                                                                                                                                                  25
                                                                                            파일(F) 편집(E) 보기(V) 삽입(I) 툴(T) 데스크탑(D) 챵(W) 도움말(H)
                                                                                            T_old =
                                                                                               0.01
            0
               100.0000 100.0000 100.0000
                                                        70.0000
                                                                                               0.006
            0
                 50.0000
                              68.7500
                                          75.0000
                                                        70.0000
                              50.0000
                                           61.2500
                                                        70.0000
                                                                                               0.004
                 31.2500
            0
                              38.7500
                                           50,0000
                                                        70.0000
                 25,0000
                                                                                               0.002
                 30.0000
                              30.0000
                                          30.0000
                                                        70.0000
                                                                                            Ξ
                                                                                              -0.002
                                                                                                                      处此1叫三.
                                                                                              -0.006
     26
                                                                                              -0 008
                                                                                               -0.01 0.001 0.002 0.003 0.004 0.005 0.006 0.007 0.008 0.009 0.01
T old =
                                                                                                                          x [m]
            0
               100.0000 100.0000 100.0000
                                                        70.0000
                                                                                            Figure 1
                                                                                                                                                  0
                 50.0000
                             68.7500
                                          75.0000
                                                        70.0000
                                                                                            파일(E) 편집(E) 보기(V) 삽입(I) 둘(T) 데스크탑(D) 창(W) 도움말(H)
            0
                 31,2500
                              50,0000
                                           61,2500
                                                        70.0000
                                                                                            0
                 25.0000
                              38.7500
                                           50.0000
                                                        70.0000
                              30.0000
                                                        70.0000
                 30.0000
                                          30.0000
                                                                                                ×10<sup>4</sup>
                                                                                                                                  MICH
                                                                                                 2
                                                                                                                                    RENK
                         支列电台的
                                                             独纪.
                                                                                                1.5
     27
T_old =
                                                                                                0.5
            0
               100.0000 100.0000 100.0000
                                                        70.0000
                                                                                               0.01
            0
                 50.0000
                              68.7500
                                          75.0000
                                                        70.0000
                                                                                                    0.005
                                                                                                                                                 0.008
            0
                 31.2500
                              50.0000
                                           61.2500
                                                        70.0000
                                                                                                                                           0.006
                              38.7500
                                                                                                                                     0.004
            0
                 25.0000
                                           50.0000
                                                        70.0000
                                                                                                              -0.005
                                                                                                         y [m]
                                                                                                                    -0.01 0
                 30.0000
                              30.0000
                                           30.0000
                                                        70.0000
                                                                                                                                       x [m]
```